

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: :

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SERIAL NO.: 10/718,531 :

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FOR: COSMETIC COMPOSITION CONTAINING
MINERAL PARTICLES AND A
POLYETHYLENEIMINE

DECLARATION UNDER 37 C.F.R. 1.132

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

I, Geraldine FACK, hereby declare:

1. I am employed by L'ORÉAL as an engineer and have experience in the field of preparing and analyzing compositions.
2. The following experiments were carried out by me or under my direct supervision and control.
3. The following compositions were prepared.

	Invention composition A	Invention composition b	Comparative Composition C	Comparative Composition D	Comparative Composition E	Comparative Composition F.
TEA-Lauryl sulfate in aqueous solution (40% active)	12.5 g (AM)	12.5 g (AM)	12.5 g (AM)	12.5 g (AM)	12.5 g (AM)	12.5 g (AM)

material)						
Cocamidopropyl-Betaine (Tego-Betaine F50 fromd Goldschmidt)	2.5 g (AM)	2.5 g (AM)	2.5 g (AM)	2.5 g (AM)	2.5 g (AM)	2.5 g (AM)
Polyethylene-imine (Lupasol G35 from BASF)	0.025g (AM)	0.025g (AM)	0.025g (AM)			0.8 g (AM)
Calcium carbonate (powder) (Omyapur 35 from Omya)	5 g	5 g		5 g	5 g	5 g
Kaolinite (KAOLON Supreme IMERYS)		3 g			3 g	
Acrylic polymer (Aqua SF 1 from Noveon)	1.8 g (AM)	1.8 g (AM)	1.8 g (AM)	1.8 g (AM)	1.8 g (AM)	1.8 g (AM)
pH adjuster (qs)	pH 7	pH 7	pH 7	pH 7	pH 7	pH 7
Preservatives	qs	Qs	qs	Qs	qs	qs
NaCl	1.5 g	1.5 g	1.5 g	1.5 g	1.5 g	1.5 g
Water (qsp)	Qsp to 100	Qsp to 100	Qsp to 100	Qsp to 100	Qsp to 100	Qsp to 100

These compositions were virtually identical except for the amount of polyethyleneimine (PEI) and solid mineral particles (calcium carbonate) present. Invention Composition A contained PEI and solid mineral particles in a ratio of 0.005, and Invention Composition B contained PEI and solid mineral particles in a ratio of 0.0031.

4. In contrast, comparative composition F contained PEI and solid mineral particles in a ratio of 0.16. Comparative composition C did not contain any solid mineral particles. Comparative compositions D and E did not contain any PEI. Also, comparative compositions C through F all contained different amounts of solid mineral particles.

5. The following experiment was performed using all of these compositions: 1 gram of each composition was applied to virgin hair locks (20 cm long, 2.7 g weight) for 5 minutes. The hair was rinsed, and then dried for 30 minutes at 70°C.

6. Next, the smoothness of the dried hair locks was evaluated by six experts using the following scale: 0 corresponded to very bad smoothness (no slip, great difference between the root and the end of the hair), while 5 corresponded to very good smoothness (good slip, no difference between the root and the end of the hair, touch was homogeneous and not loaded). Thus, the higher the number resulting from this evaluation, the better smoothness properties the composition possessed. Such evaluative methods are commonly used in the cosmetics industry generally and in our laboratories specifically. The results of the testing are set forth in the following table.

	Invention composition A	Invention composition B	Comparative Composition C	Comparative Composition D	Comparative Composition E	Comparative Composition F
Smoothness of dried hair (mean)	3.8	4.1	2.3	1.6	1.5	1.9

The experts noted a marked improvement of the smoothness of hair treated with the invention compositions A and B.. Surprisingly, however, compositions containing either solid mineral particles (comparative compositions D and E) or PEI (comparative composition C) possessed extremely poor smoothness properties.

7. Furthermore, it was surprising that comparative composition F which contained PEI/solid mineral particles in a ratio of 0.16 contained worse smoothness properties than invention compositions A and B. This demonstrated that the combination of PEI and solid mineral particles does not always or necessarily result in improved smoothness properties.

8. Thus, the invention composition imparted hair with vastly different smoothness properties compared to the comparative compositions. This vast difference in cosmetic properties was surprising and unexpected given the similarity of the compositions.

9. The improved smoothness properties obtained with the invention composition are representative of the present invention. That is, I would expect shampoo or conditioner compositions containing a cosmetically acceptable medium, solid mineral particles comprising at least one element selected from the group consisting of columns IIa, IIIa and IVa of the Periodic Table of the Elements, and at least one polyalkyleneimine, wherein the polyalkyleneimine/mineral particle weight ratio is 0.1-0.0001, to possess improved smoothness properties like those of the exemplified invention composition. I have no reason to expect otherwise.

10. The difference in smoothness properties between the invention composition and the comparative compositions demonstrates the surprising and unexpected benefit derived from having the claimed solid mineral particles and the claimed PEI in the required ratio in the invention compositions.

11. The improved smoothness properties associated with the invention compositions are commercially significant. Clearly, shampoos or conditioners which increase the smoothness properties of hair to which they have been applied are more commercially viable than shampoo or conditioner compositions which do not provide hair with increased smoothness upon application.

12. The undersigned petitioner declares further that all statements made herein of her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

13. Further deponent sayeth not.

Geraldine FACK
Name

G.Facke
Signature

October 3, 2007
Date